

# ASTRAEUS (COLEOPTERA: BUPRESTIDAE): A DESCRIPTION OF THREE NEW SPECIES AND NEW LOCALITY RECORDS

by S. BARKER\*

## Summary

BARKER, S. (1977).—*Astraeus* (Coleoptera: Buprestidae): a description of three new species and new locality records. *Trans. R. Soc. S. Aust.* 101(1), 11-14, 28 February, 1977.

Three new species of the Australian buprestid genus *Astraeus* are described, and new data on the distribution of several species are presented.

## Introduction

Following my review of the genus *Astraeus* (Barker 1975) more material is available including three undescribed species and several range extensions. I have also referred to the work of Cobos (1955, 1973) who placed *Astraeus* close to the newly defined tribe ACHERUSINI Cobos, which occurs in South America, whereas I followed Carter (1929) in placing *Astraeus* in the BUPRESTINI.

As yet no information is available in the literature on the life history of *Astraeus*, because apart from the knowledge that the larvae are trunk and root borers and that many feed on *Casuarina* species, little is known of the biology of *Astraeus*.

All specimens referred to are lodged in the collection of the South Australian Museum.

## New Locality Records

### *Astraeus* (*Depollus*) *irregularis* van de Poll

3 ♂ & 1 ♀ 19 km E of Kimba, S. Aust. on *Casuarina helmsi*, S. Barker, 29.i.1976.

This is the first record of the species and subgenus outside Western Australia to which I stated it was confined (Barker 1975, p. 107).

### *Astraeus* (*Astraeus*) *obscurus* Barker

4 ♂ & 1 ♀ 19 km E of Kimba, S. Aust. on *Casuarina helmsi*, S. Barker, 12.xii.1975; 3 ♂ & 2 ♀ Pindar Mill, Talling Stn, Pindar, W.A. on *Casuarina dielsiana*, S. Barker, 27.xii.1975.

This extends the range by approx. 500 km N and 1,300 km E.

### *Astraeus* (*Astraeus*) *smeythi* Barker

5 ♂ & 2 ♀ 4 km west of Glasshouse Moun-

tains, Qld, on *Casuarina littoralis*, S. Barker, 5.xi.1975.

### *Astraeus* (*Astraeus*) *watsoni* Barker

#### FIG. 4A

1 ♂, Badjaling, W.A. on *Casuarina huegeliana*, S. Barker, 20.xii.1975.

Size. Male 10.9 x 3.9 mm.

*General remarks.* *A. watsoni* was described from female specimens. A male is now available and its genitalia is figured below. On the basis of external features and shape of male genitalia this species shows closest affinity with *A. macmillani*, *A. carnabyi*, *A. badeni*, *A. jansoni*, *A. oberthuri* and *A. carteri*.

## New Species

### *Astraeus* (*Astraeus*) *mourangeensis* sp. nov.

#### FIGS 1, 4B

#### *Types.*

Holotype: ♂ 4 km SW Mourangee Stn, Edungalba, Qld on *Casuarina* sp., E.E. & S. Adams, 26.xii.1974. SAM 1 20 985.

Allotype: ♀ 4 km SW Mourangee Stn, Edungalba, Qld on *Casuarina* sp., E.E. & S. Adams, 26.xii.1974. SAM 1 20 986.

#### *Colour.*

*Male.* Head blue-green at the apex, dark blue at the base and sides with golden reflections. Antennae blue-green with golden reflections. Pronotum turquoise at the sides with golden reflections, dark blue in the middle with purple reflections. Elytra black with blue reflections, each elytron with the following yellow markings: a basal spot; a clubbed-shaped fascia before the middle covering the humeral fold and running towards the suture but not touch-

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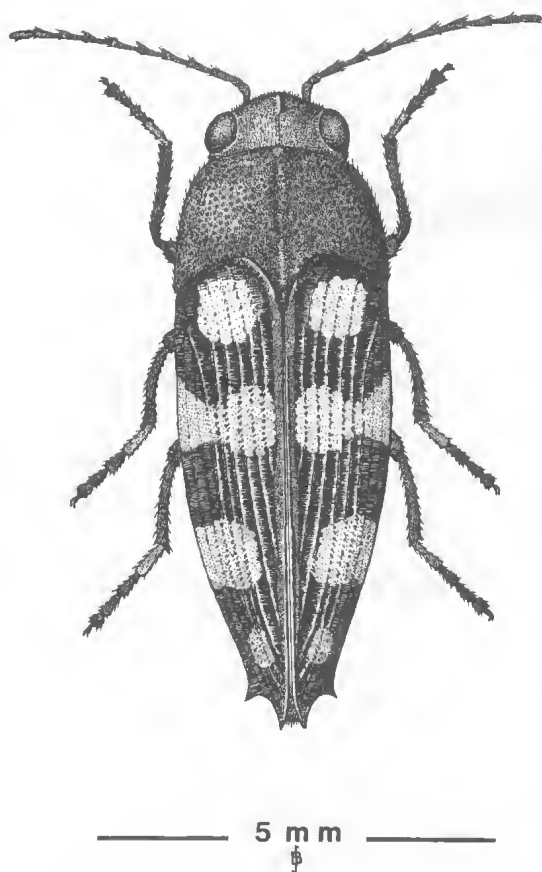


Fig. 1. *Astraeus mourangeensis* sp. nov.

ing it; a fascia after the middle touching the margin but not reaching the suture; a preapical spot. Undersurface dark metallic blue with blue reflections; 1st tarsal segment testaceous with dark brown tips; 2nd, 3rd and 4th tarsal segments dark brown with metallic blue reflections on the supper surface; hairs silver.

**Female.** Head black with blue and purple reflections. Antennae black with purple reflections. Pronotum black with purple reflections in the middle, blue and purple reflections at the sides. Elytra as in the male except that the first fascia is broken to form two spots. Undersurface black with purple reflections. Legs: femur and tibia black with purple reflections; tarsi as in the male; hairs silver.

**Shape and sculpture.** Head with even, shallow punctures; a thin median keel; hairy. Pronotum with shallow even punctures; with a thin median longitudinal glabrous line which extends forwards from the basal crypt but does not reach the middle, from its end a wide

shallow depression extends forwards almost to the anterior margin; rounded at the sides from the base, tapered before the middle to the apex; apical edge rounded and projecting forwards in the middle; hairy. Elytra costate, the intervals flat; slightly concave at the sides from the base to before the middle then rounded and tapered to the marginal spine which is sharp but barely curved; humeral fold well developed, angled. Undersurface evenly punctured, the punctures shallow in the middle, slightly larger and deeper at the sides; sparsely haired. Overall the body shape is long and narrow.

**Size.** Male 6.6 x 2.7 mm.

Female 8.0 x 2.9 mm.

**Distribution.** Queensland.

**General remarks.** On the basis of external morphology and shape of male genitalia this species shows closest affinity with *A. mastersi* and *A. samouelli*. *A. mourangeensis* differs from these species; in outline being comparatively narrower; in colour of the head and pronotum; in that only part of the first tarsal segment is testaceous.

**Specimens examined.** Types only.

***Astraeus (Astraeus) blackdownensis* sp. nov.**

FIG. 2

**Type.**

Holotype: ♀ Blackdowns Tableland Forestry Reserve, Qld on *Casuarina inophloia*, 3.xi.1975, E.E. Adams & S. Barker. SAM I 20 987.

**Colour.**

**Female.** Head blue-green. Antennae black with green and blue reflections. Pronotum with a heart-shaped dark purple mark in the centre, green at the anterior margins, blue laterally. Elytra black with the following yellow markings on each elytron: a basal spot; a spot before the middle near the suture but not touching it; a fascia after the middle not touching the suture or lateral margin; a small preapical spot; on the margin a spot near the shoulder covering the humeral fold, midway between this spot and the fascia there is a laterally elongate mark commencing at the margin and extending for four intervals between the costae. Undersurface: prosternum metallic blue-green, remaining undersurface and legs metallic blue; hairs silver.

**Shape and sculpture.** Head uniformly and shallowly punctured; with a median longitudinal keel; hairy. Pronotum with shallow punctures in the middle, deeper and closer at the sides; a broad median longitudinal impressed line clearly defined at the apex run-

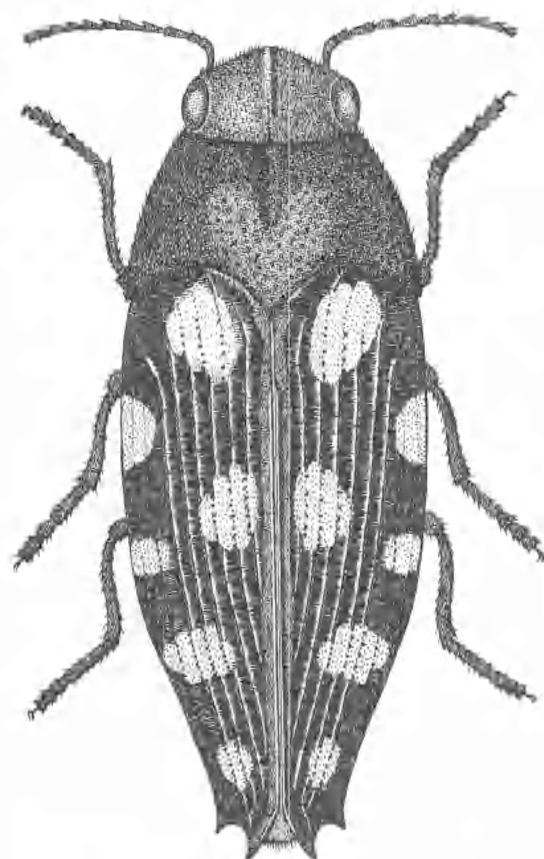


Fig. 2. *Astraeus blackdownensis* sp. nov.

ning  $\frac{1}{3}$  of the distance to the base; at the sides rounded and tapered from base to apex; hairy. Elytra costate, the intervals flat but slightly wrinkled; sides parallel to before the middle then gently rounded and tapered to the apex; marginal and sutural spines sharp and moderately well-developed; humeral fold moderately developed and angled. Undersurface evenly, shallowly but closely punctured; hairy.

*Size.* Female 10.1 x 3.8 mm.

*Distribution.* Queensland.

*General remarks.* The elytral pattern is similar to *A. watsoni* but the species differs being smaller, the elytral intervals are wrinkled and the body is comparatively hairless. It also differs in colour.

*Specimens examined.* Type only.

*Astraeus (Astraeus) crockeri* sp. nov.

FIGS 3, 4C

*Types.*

Holotype: ♂ Juranda rockhole 106 km S Balladonia, W.A. on *Callitris preissii*, 15.xii.1975, S. Barker. SAM I 20 988.

Allotype: ♀ Juranda rockhole 106 km S Balladonia, W.A. on *Callitris preissii*, 9.xii.1974, S. Barker. SAM I 20 989.

Paratypes: 5 ♂ & 5 ♀ Juranda rockhole 106 km S Balladonia, W.A. on *Callitris preissii*, 9.xii.1974 & 15.xii.1975, S. Barker.

*Colour.* Head and pronotum metallic purple. Antennae black with blue reflections. Elytra black with purple reflections, each elytron with the following yellow markings: a basal spot; before the middle a fascia covering the humeral fold, concave towards the base and running close to the suture but not touching it; after the middle a fascia commencing on the margin concave towards the apex running towards the suture but not reaching it. Undersurface purple. Legs with blue and purple reflections. Hairs silver.

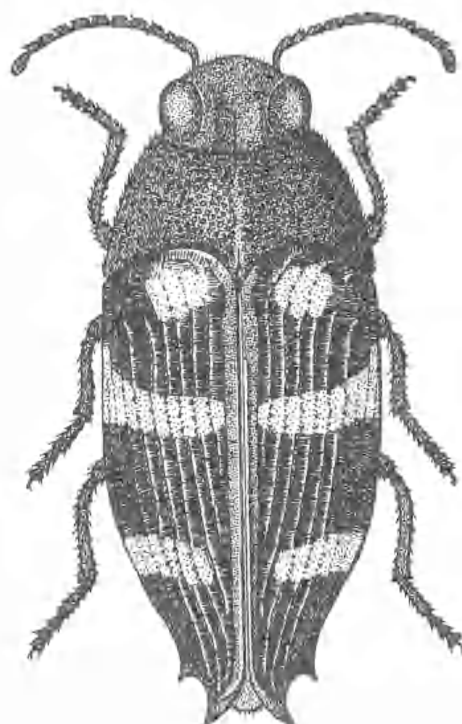


Fig. 3. *Astraeus crockeri* sp. nov.

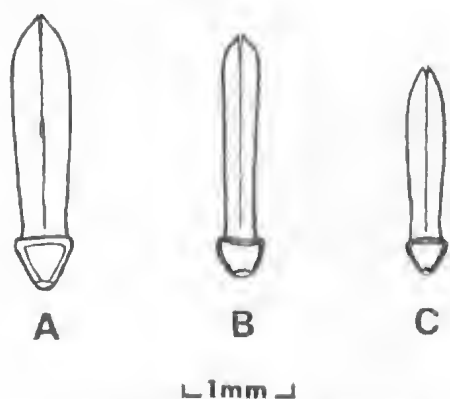


Fig. 4. Outline diagram of dorsal surface of parameres of male *Astraeus* (*Astraeus*) species: A: *A. watsoni*; B: *A. mourangeensis*; C: *A. crockeri*.

**Shape and sculpture.** Head with shallow even punctures, no median keel, slightly excavated between the eyes, hairy. Pronotum with shallow even punctures, basal crypt very elongate and with a short impressed line projecting forwards from it and continuous with the basal end of a median longitudinal glabrous line which does not reach the anterior margin; at the sides rounded and tapered from base to apex; hairy. Elytra costate, the intervals flat; more or less parallel-sided from the base to the middle then rounded and tapered to the strongly developed marginal spine, sutural spine well developed; humeral fold moderately developed and angled. Undersurface shallowly but evenly punctured; hairy. Overall the body shape is rounded when seen from above.

**Size.** Males  $6.4 \pm 0.2 \times 2.8 \pm 0.1$  mm (6).

Females  $6.8 \pm 0.1 \times 2.9 \pm 0.1$  mm (6).

**Distribution.** Southeast Western Australia.

**General remarks.** On external characters this species shows closest affinity with *A. badeni*, although male genitalia are similar in shape to those of *A. fraseriensis*. It differs from *A. badeni* in being smaller in size, the intervals between the costae on the elytra are smooth hence the elytra are shinier than in *A. badeni* in which the costal intervals are wrinkled. Also the humeral fold is better developed as are the marginal spines. The colour also differs. In the specimens of *A. crockeri* I have examined, none has a preapical spot on each elytron although in *A. badeni* this is a variable character. Named after Mrs A. E. Crocker.

With the addition of the above new species the key to *Astraeus* (*sensu stricto*) (Barker 1975, pp. 114, 115) needs the following modifications. Add under the appropriate couplet—

6. Only 1st tarsal segment testaceous ..... *mourangeensis* sp. nov.

11. Head green, pronotum with heart-shaped purple mark in centre, green in front, blue at sides ..... *blackdownensis* sp. nov.

21. Humeral fold moderately developed and angled\* ..... *crockeri* sp. nov.

\* See Barker (1975) Fig. 1.

### Acknowledgments

I am indebted to Mr B. Levey for advice; to Mr G. F. Gross and Dr E. Matthews, South Australian Museum for advice and assistance; to Mrs A. E. Crocker and family, Balladonia Stn, W.A. and Mr E. E. Adams and family of Mourangee Stn, Qld for hospitality and assistance; to Dr E. Wollaston, Department of Botany, University of Adelaide, for identification of plant specimens. I was in receipt of a grant from the Interim Council of the Australian Biological Resources Study.

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